
Formation of Technological Competencies in Students on the Basis of Innovative Approach in Technological Education

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Abstract: In this article, pedagogical and psychological possibilities for studying national handicrafts by students of secondary schools are developed.

Keywords: Innovation, innovative processes, innovative learning, innovative technologies, technological learning, technological competence, information technology, computer literacy, information environment.

Introduction

The changing role of education in society is largely determined by innovative processes. Innovative development of school education from a modern point of view may seem much easier than superficial, but it is a much more complex task, which includes such concepts as "new", "innovation", "innovation", "innovative processes", "innovative education", "innovative technologies". It will be necessary to carefully master and rely on them.

The profound socio-economic, political and legal reforms being carried out in our country are inextricably linked with innovative approaches in the life of the country and society, in the field of education. Innovative approaches emphasize the need to pay special attention to the preparation of future professionals for innovative activities.

Innovative technologies are fundamentally new methods and techniques of teacher-student interaction, which ensure the achievement of effective results in pedagogical activities [1].

Development is an integral part of human activity. As a person gains experience, he improves the methods and techniques of his activity, expands his mental capacity, and constantly develops himself. This applies to any human activity, including pedagogical activity. First, we focus on the content of the terms "education" and "innovation" related to the topic of our research.

According to the National Encyclopedia of Uzbekistan, the concept of innovation has the following meanings: "Innovation (English innovation - introduced innovation, invention) - 1) funds spent on the economy to ensure the replacement of generations of equipment and technology; 2) innovations in areas such as engineering, technology, management and labor organization, based on scientific and technical achievements and best practices, as well as their application in various fields and activities" [2].

Any innovation arises due to changes in society and as a logical continuation of the development of scientific technology. There will inevitably be news in the areas of activity. The development of science and technology requires significant changes in the work of

enterprises and organizations.

In order to shape students' technological competence based on an innovative approach; a teacher must first have an understanding of pedagogical innovation. Pedagogical innovative processes have been studied by scientists in Western countries since the late 50s of the last centuries, and in independent Uzbekistan for the last 10 years. In recent years, scientists of our country have been conducting research on innovation, innovative thinking, innovative activity, innovative market, pedagogical innovations.

The development of pedagogical innovation in Uzbekistan is associated with the need for rapid development of the school of the general public-pedagogical movement and the contradictions that have arisen as a result of the inability of teachers to provide it. Now the scope of general application of innovations has expanded significantly. Therefore, the demand for new knowledge, attention is paid to the understanding of the concepts of "innovation", "innovation", "innovation process", "innovative technologies", "innovative activity".

Introduction of design activities in modern lessons - the use of innovative methods serves to increase the effectiveness of the lesson. Innovative technologies are innovations and changes in the pedagogical process and the activities of teachers and students, in the implementation of which mainly interactive methods are used [3, 4, 5].

In the rapidly evolving information age, students must be knowledgeable, able to make decisions based on deep observation and reflection, and have a thorough knowledge of the mysteries of science. This, in turn, imposes a great responsibility on teachers, pedagogical scientists, business leaders, management staff in educating young people who are the future of our independent state and shaping them into harmoniously developed people.

In recent years, innovations in the education system have become more relevant. After all, education is one of the main areas that determine human existence. One of the main requirements of society in the modern system of education is to bring up and form a person who is well-developed, able to find non-standard solutions in complex situations, able to think creatively and receive lifelong learning throughout his life. This requires the formation of technological competence of students on the basis of an innovative approach [6, 7].

Radical changes in the socio-economic spheres of society in the field of spiritual and material values the problem of preparing students for life in the current context of educational reforms requires raising the formation of technological competencies in them to a qualitatively new level.

The stage of technological training in modern schools is aimed at combining the personal aspirations and abilities of students based on their social needs and interests. It should focus on students' knowledge of social relations.

The formation of technological competence in students is an integrated continuous process of teaching, education and development aimed at preparing students for a technological lifestyle, mental and physical labor for the common good, practical and moral-psychological training.

The purpose of the formation of technological competence is to form a readiness for honest, creative work in various areas, to strengthen the health of the individual, to promote his full development.

Theoretical bases of problems of development of the person by means of polytechnic education and production of training, connection with practice are studied by P.R. Atutov, S.N. Skatin and U. Nishonaliev.

The research of N. Sh. Shodiev and K. Davlatov analyzes the issues of labor education, preparation and education of students in the process of labor education, socially useful and productive labor at different stages of development of general secondary schools in the country.

Leading pedagogical scientists Sh. S.Sharipov, N. A.Muslimov and O. A. Kuysinov have studied the problems of formation of general labor skills, design and creative abilities of students, the development of technical thinking, curiosity and technological readiness as the basis of creative activity.

The scientific and pedagogical analysis of the research of the above-named scientists shows that in recent years in the field of pedagogy as an important tool for the comprehensive development of personality of schoolchildren is growing attention to the problem of forming technological competencies. Examples of this are:

- Development of theoretical foundations for the formation of the personality of schoolchildren on the basis of combining teaching with the labor of production in the conditions of scientific and technical development;
- more effective formation of students' conscious attitude to education, work, career choice in the holistic process of linking education with socially useful work;
- To identify the main contradictions in the process of integration of education with production and ways to solve them.

The scientific basis of the relevance of teaching the subject "Technology" on the basis of an innovative approach is the concept of humanization of education, author's style of teaching, the introduction of person-centered education, the elimination of formalism in education, compatibility.

A number of shortcomings in the formation of technological competencies of students in school practice have been identified [3]: teachers do not have modern ideas about the purpose of labor education and technological education in innovative socio-economic conditions; the content of labor education of rural school students is not developed on the basis of today's requirements, individual characteristics and interests of students are not sufficiently taken into account, labor education is organized in general without taking into account regional and national specifics of the environment; there are cases when the organization of the formation of technological competencies in schoolchildren does not meet modern requirements; the low material and technical base of technological education and upbringing, and as a result of these shortcomings, there is no need for labor among students [6-20].

Experience shows that technological competence is not an isolated competence, but an element of other core competencies. It has often been interpreted as a competence formed within the framework of the subject "Technology". Technological competence can be defined as the ability of students to effectively use their knowledge, skills, abilities to prepare (develop) a product in real situations, in accordance with the order of consistent performance of technological operations, technological standards, safety rules and occupational safety requirements [21-38].

Pedagogical research shows that the essence of the concept of "competence" is reflected in its complex nature, ie the integration of knowledge, skills, values, directions and attitudes, each of which is equally important and important for the implementation of educational activities. Organizational and technological competencies are inextricably linked with the selection of tools, the search for the necessary materials, the identification of technological methods of their processing, work planning and an innovative approach to the study of the labor process.

The traditional teaching of technology focuses on educating students, involving them in work, while students are inactive and the teacher is active, the use of innovative methods in teaching "Technology" - these are new methods of communication with students (STEAM, STEM, game technology, design, individual education), the position of cooperation with them requires their involvement in today's problems. Innovative methods are ways to show students their potential.

The organization of the educational process STEAM (science, technology, engineering, art and mathematics) approach to the development of science and technology, engineering, mathematics and everyday life in the process of teaching science in secondary schools is an urgent issue. STEAM is a general plan aimed at strengthening interdisciplinary links and practical approaches to general education in the education of students at the international level in accordance with modern requirements. STEAM involves the integration of practical aspects of the natural sciences, technology, engineering, art, creativity, mathematics. STEAM-education allows the joint application of scientific methods, technical applications, mathematical modeling, engineering design. This ensures the innovative thinking of the student, the formation of technological competencies in them.

Conclusion

The purpose of teaching technology on the basis of an innovative approach is to develop students' intellectual, communicative, technological and creative abilities, ways of thinking, the formation of qualitative knowledge, skills, abilities, in short, technological competencies. Based on the above objectives, the following objectives of teaching technology on an innovative approach have been identified: optimizing the educational process, creating conditions for teacher-student cooperation, forming a positive attitude to learning, engaging them in creative activities, correct teaching materials and methods of transmission. selection. Innovative approach to teaching the subject "Technology" is based on developmental, problem-based learning, the development of critical thinking, a differentiated approach to teaching, creating conditions for success in the classroom, and more. The main principles of teaching based on an innovative approach are creativity; mastering the knowledge of the system, non-traditional forms of lessons, the use of the demonstration method.

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